

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 29 DEC 2003

WIPO

PCT



Applicant's or agent's file reference 71S0522.WO27	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IT 02/00622	International filing date (<i>day/month/year</i>) 30.09.2002	Priority date (<i>day/month/year</i>) 30.09.2002
International Patent Classification (IPC) or both national classification and IPC B28C1/12		
Applicant SYSTEM S.p.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 10.09.2003	Date of completion of this report 23.12.2003
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Westermayer, W Telephone No. +49 89 2399-8172 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 02/00622

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-12 received on 03.12.2003 with letter of 02.12.2003

Drawings, Sheets

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IT 02/00622

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT02/00622

1. Reference is made to the following document:

(D1) US-A-5 499 746.

2. Document D1 is considered to represent the most relevant state of the art. However, neither this document nor the other available state of the art mentions or renders obvious a container with rounded corners and an opening as cited in claim 1 (cf. D1, claim 1 and figures 1-4).
3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.

Claims.

- 1). A device for containing and supplying loose materials, comprising:
a support frame (5);
a rigid container (2) mounted on the support frame (5) and exhibiting at least one opening (3);
means (4) for opening or closing the at least one opening (3);
~~wherein the rigid container (2) is rotatably constrained to the support frame (5)~~
~~and wherein~~ the device exhibiting means (11) for rotating the container (2) on the support frame (5) about a rotation axis (x) thereof; the container (2) **being rotatably constrained to the support frame (5) and** being mobile between at least a first position, in which the at least one opening (3) is located in an upper position for loading loose material into the container (2), and at least a second position, in which the at least one opening is located in a lower position for unloading the loose material from the container (2) **characterized in that**
- ~~2). The device of claim 1, wherein the container (2) exhibits a parallelepiped shape~~ **with rounded corners and wherein the at least one opening (3) extends at least partially along an access corner (10a) of the rounded corners (10) of the container (2) and is parallel to the rotation axis (x) of the container** **(2).**
- ~~2).3). The device of claim 1, wherein the container (2) exhibits a cubic shape.~~
- ~~4). The device of claim 2 or 3, wherein the container (2) exhibits rounded corners (10).~~
- ~~5). The device of claim 2 or 3, wherein the at least one opening (3) extends at least partially along an access corner (10a) of the rounded corners (10) of the container (2).~~

~~6).~~ The device of claim ~~5~~, wherein the at least one opening (3) is parallel to the rotation axis (x) of the container (2).

~~3).~~~~7).~~ The device of claim ~~2 or 3~~ 1, comprising a plurality of openings (3) which are reciprocally aligned along the access corner (10a) of the container (2).

~~4).~~~~8).~~ The device of claim 1, wherein the means for rotating (11) comprise: a cogged crown wheel (12) which is solidly constrained to the container (2) and which is coaxially arranged with respect to the rotation axis (x), the crown wheel (12) being predisposed to enmesh with a cogged pinion (13) which is activated by means of a hollow shaft (19) by a motor (14) which is solidly constrained on an external support frame (50) on which the support frame (5) can be housed.

~~5).~~~~9).~~ The device of claim ~~8~~ 4, comprising means for moving (17) the pinion (13) from an enmeshed position with the crown wheel (12), in which enmeshed position the motor (14) causes the container (2) to rotate, and a disengaged position from the crown wheel (12), in which the container (2) is stationary.

~~6).~~~~10).~~ The device of claim ~~9~~ 5, wherein the means for moving (17) the pinion (13) comprise:

a support plate (21) rotatably coupled with the hollow shaft (19);
at least two actuators (22) having longitudinal axes which are parallel to a motion direction of the pinion (13), connected at an end thereof to the external support frame (50) and at another end thereof to the support plate (21).

~~7).~~~~11).~~ The device of claim ~~10~~ 6, comprising means for blocking (18) the crown wheel (12).

~~8).~~~~12).~~ The device of claim ~~11~~ 7, wherein the means for blocking (18) the crown wheel (12) comprise a cogged plate (23) associated to the external support frame (50) and mobile between an enmeshed position with the crown wheel (12), corresponding to a disengaged position with the pinion (13), and a disengaged position with the crown wheel (12), corresponding to an enmeshed position with

the pinion (13).

~~9).13).~~ The device of claims ~~from 5 to 7~~ 1, wherein the means (4) for opening or closing the at least one opening (3) comprise:

a small plate (25) mounted internally of the container (2) and mobile between a closed position, in which the small plate (25) closes the at least one opening (3), and an open position, in which the small plate (25) is displaced away from the at least one opening (3); and

means for moving the small plate (25):

~~10).14).~~ The device of claim ~~13~~ 9, wherein the means for moving the small plate (25) comprise:

a shaft (28) mounted in the container (2) at the access corner (10a) thereof and parallel to the access corner (10a); the small plate (25) being solidly constrained to the shaft (28); the shaft (28) being rotatable about a longitudinal axis (Y) thereof in order to displace the small plate (25) between the open position and the closed position;

a mechanism (29) for rotating the shaft (28).

~~11).15).~~ The device of claim ~~14~~ 10, wherein the mechanism (29) for rotating the shaft (28) comprises:

a fork (30) mounted transversally to the shaft (28) and an end (28a) of the shaft (28) which end (28a) is external of the container (2), the fork (30) being predisposed to interact with a first pivot (31) and a second pivot (32);

the first pivot (31) being mounted on the external support frame (50) at a position corresponding to an upper position of the at least one opening (3); the first pivot (31) being mobile between a distanced position from the container (2) and a close position to the container (2), and interfering with the fork (30) when the at least one opening (3) is located in the upper position and determining a displacement of the small plate (25) from the closed position to the open position;

the second pivot (32) being mounted on the external support frame (50) at a lower position of the at least one opening (3); the second pivot (32) being mobile between a position in which it is distanced from the container (2) and a position in which it is close to the container (2), and interfering with the fork (30) when the at least one opening (3) is located in the lower position and determining a displacement of the small plate (25) from the closed position to the open position. ~~12).46).~~ The device of claim ~~14~~10, comprising elastic return means (34) which act upon the shaft (28) to keep the small plate (25) in the closed position thereof.